

### **REMARKS**

Before this Amendment, claims 3-7, 9, 11, 13, 15 and 17 were present for examination. Claims 3, 4-7, 9, 11, 13, 15 and 17 have been amended. Claims 1, 2, 8, 10, 12, 14 and 16 have been previously canceled. No claims have been added. Therefore, claims 3-7, 9, 11, 13, 15 and 17 remain present for examination.

The Office Action objected to claims 3-7, 9, 11, 13, 15 and 17 as including grammatical informalities.

The Office Action rejected claims 3-7, 9 and 13 under 35 U.S.C. §103(a) as being unpatentable obvious modifications of the cited portions of U.S. Patent No. 6,389,844 to Klein Nagel Voort (“Voort”).

The Office Action rejected claims 11, 15 and 17 under 35 U.S.C. §103(a) as being unpatentable over obvious modifications of Voort, and further in view of the cited portions of U.S. Patent No. 6,308,531 to Roberts et al. (“Roberts”).

#### **Amendments**

Claims 3, 4-7, 9, 11, 13, 15 and 17 have been amended to correct various grammatical informalities. Applicant respectfully submits that no new matter is added by these amendments.

#### **Remarks**

##### **Claims 3 and 13**

Claims 3 and 13 stand rejected as being obvious over Voort. Additionally, the Office Action also appears to incorporate cited portions of U.S. Patent No. 6,647,744 to Fanning et al. (“Fanning”) as teaching or suggesting certain recitations not taught or suggested by Voort. Office Action, p. 6. Applicant respectfully traverses this rejection at least because Voort and Fanning do not teach or suggest all of the recitations of these claims, nor have such recitations been shown to have been known in that art at the time of the invention.

Specifically, Voort and Fanning do not teach or suggest the following recitations from claim 3 (claim 13 includes similarly directed recitations):

“at least two additional circuits for removing heat from the main refrigerants in each of the main refrigerant circuits, where the additional circuits are separate from the pre-cooling refrigerant circuit such that said additional circuits do not exchange heat with the pre-cooling refrigerant circuit[.]”

The Office Action correctly states that Voort does not teach or suggest this recitation. Office Action, p. 3. Instead, the Office Action (1) states without citation that such a recitation is commonly known in the art (Office Action, p. 3-4), or (2) states that Fanning teaches or suggests such a recitation (Office Action, p.6-7). As stated in a response to a prior Office Action, Applicant believes the former line of reasoning (1) is categorically unsupported, and respectfully requests documentary evidence of such knowledge in the art, if any, pursuant to MPEP §2144.03.

As to the later line of reasoning (2), Fanning also does not teach or suggest such a recitation. The Office Action cites figure 1 and column 2, lines 24-26 as teaching or suggesting such a limitation. Office Action, p.6. Specifically, as figure 1 does not show additional circuits exchanging heat with the main heat exchange circuits (i.e. elements 23, C2 and R2), the Office Action must be relying on column 2, lines 24-26 of Fanning as teaching or suggesting the above recitation. However, this portion of Fanning merely describes cascade refrigerant systems. While this could imply additional circuits interacting with main heat exchange circuits, it does not explicitly or inherently describe the additional and detailed recitations above which state that such additional circuits “are separate from the pre-cooling refrigerant circuit such that said additional circuits do not exchange heat with the pre-cooling refrigerant circuit[.]”

Thus, Voort and Fanning do not teach or suggest the above recitations, and therefore are insufficient in establishing a prima facie case of obviousness. Such recitations have also not been otherwise shown to have been known in the art at the time of the invention. For at least these reasons, Applicant respectfully requests withdrawal of the §103 rejections of claims 3 and 13.

Claims 4-7, 9, 11, 15 and 17

Claims 4-7, 9, 11, 15 and 17 stand rejected as being obvious over Voort or obvious over Voort in view of Roberts. Each of these claims depends, either directly or indirectly, from one of claims 1 or 13, and are therefore believed to be allowable at least by virtue of their dependence from an allowable base claim. Thus, Applicant respectfully requests withdrawal of the §103 rejections of these claims.

CONCLUSION

For at least all of the foregoing reasons, Applicant believes all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,



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